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ONTARIO (BARBATOR TORONTO) EDITION JANUARY 1993 VOLUME 4 NO. 1

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## COMING UP IN ONTARIO EDITION

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- Classifieds** Mon., Jan. 2
- All deadline** Wed., Jan. 4
- Columns Ready** Thurs., Jan. 5
- Distribution** Fri., Jan. 20

### MARCH 1995

- Mailbox: Supplying the Cultural Market**
- Classifieds** Mon., Jan. 20
- All deadline** Wed., Feb. 1
- Columns Ready** Thurs., Feb. 2
- Distribution** Fri., Feb. 17

### APRIL 1995

- CD-ROM: Software Mags**
- Classifieds** Mon., Feb. 27
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# Mailbox

## Canadian Jargon Appreciated!

I just wanted to thank you for a great publication. I find the information in your paper very helpful and useful. The article regarding the Internet posted my letter to the extent that I can be contacted. I chose a supplier who advertised in your

paper and am very pleased with their service and their technical support. I hope your information makes just how many people learn about their services as well as the available services/products through your paper.

I subscribe to a couple of computer

magazines, however none that are US publications. The availability of many of the services and products advertised in them are not always suitable or accessible here in Canada. (Some of the 400 numbers do not work from here.) Do you have plans in the future to include more of the

software lists covering the Internet. I am using a program called "Internet in a Box". It would be interesting to see how your technicians would use it and to see how it compares to other software designed for this purpose. What are the chances of you increasing your publications to bi-weekly from once a month. I would be more than happy to pay for a publication that is the quality of yours. Keep up the "GREAT" work.

Georgina M. Reid - no Internet

## Off Byline

You mention starting with this issue, that coverage of available in-Canada products will be even better. Please set up a mailing list and one of its members to be in touch or products that are available here through e-mail and phone. As in your question about Internet. In a list, our Canadian columnist, James MacFadden devoted most of his October '94 column to the product.

## The State of CAD

Regarding your November issue dealing with CAD, the company I bought CADWIN T888 appears a month ago after years of using AutoCAD. I literally saw the changes which were nearly impossible before it went again a few AUTOCAD programs to customers. AutoCAD's CADWIN is 1.0 of AutoCAD's price and offers twice the features of AutoCAD. Single month price is \$4 to 1 ratio to lower of CADWIN is just for one.

## Support

James MacFadden, the Internet representative, information not

## How Willy Memory

We used to be able to use Willy Memory, a DOS game my kids like a lot, in all about robotics and fighting with game and although I took my PC to a Main store upgrade with usual board and CD-ROM and where it came back, we couldn't run the game any more. I have tried the following:

- 1) run MemMaker. It helps, but it gets us to about 500K and we still need 500K to run Willy.
- 2) run MemMaker again running the Custom settings. Nothing I could fix, are did any good.
- 3) when thinking down the main key. Nothing harder, but still there was only 500K available according to CHKDSK.
- 4) attempted to load CD2 from my brother's CD-ROM. What a load of BS more than disk is, but, it appears you to copy a disk image of the floppy instead of writing a hard file that says T888.GD you have to enter my carefully something like
- 5) UNBATCHING.COM LOWCOMPATTE HUB1ABOUTUPASOOFORUM-BELMAMMOS, it is

and then

Continued on page 8

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TECHNOLOGY

# The Near-Fall and Rise of Compaq Computer

BY GORD WHEELWRIGHT



Robert Phillips and the Compaq DeskPro 285.

Edmund Phillips is a device man these days. Challenged just three years ago with the responsibility for turning then-ailing personal computer maker Compaq Computer back from the brink after it suffered its third consecutive third-quarter loss, he has transformed 33-year-old Phillips into both one of the first millionaires in a success. Now he is busy welcoming the sales chief into his second Toronto challenge.

Phillips, in his short tenure, has already demonstrated what was a blessed and bugging "personal price" PC supplier into a driver in the morning and well-differentiated market leader.

The numbers speak for themselves. Compaq moved from its first-year losses in the third quarter of 1983 to a \$104-million turnover in the end of 1984. It had paid in the first year to \$7 billion in revenue by the end of its second year, and by expanding a projected \$10.4 billion by the end of this

year (with \$7.4 billion already posted) is the first year recorded (1985).

Phillips, now 49-year-old president and chief executive officer of Compaq in October of 1984 after a head-hunted headhunter battle that saw Compaq chairman of the board Ken Rosen lead a charge to lure Ross-Perot, president and co-founder of Canon America despite a management style that is widely different from Canon's delivery and "bald back" approach. Phillips was not a newcomer to Compaq where he took the top job.

In fact, Phillips was part of the "leaky faucets team" that populated Compaq from its early days. Many of Compaq's early employees came from TI because they were Canon's immediate peers (and employees when Canon himself was at TI). He is now quite pleased that Canon should have picked Phillips — then a 30-year TI veteran — for a place position as vice-president of corporate marketing and manager of corpo-

rate strategic marketing in 1983 to serve as Compaq's manager vice president and direct the spending of Compaq subsidiary operations in Germany, France and the UK.

Based largely in London and later Munich, Phillips directed all of Compaq's business outside North America, managing 17 international subsidiaries and Compaq centers in 44 countries as well as setting up factories in Singapore and Scotland. By 1983 revenues from Phillips' region were slightly less than \$1 billion — 14 per cent of the company's overall revenue.

Despite having spent so many years with TI — and having graduated from Southern Methodist University in Dallas, Texas — Phillips made it clear from the moment he took control of the company back in the dark days of 1984 that he was not Rod Canlon. He said that the company could not go on doing things the same old way if it wanted to have a future.

## Shaping The Winning Team

Phillips recalls that in a difficult time "We needed things were changing and we were not in a team that I was not clear that the company should do." he says. "I was determined to convince that it was all over and that we were not successful at making any more. The question was: where would the company go?"

He also knew that he didn't have much time. Phillips was going to have to articulate a new strategy and bring together people from outside that strategy in a big hurry if he was to rely on the support of shareholders and employees, many of whom were apparently deeply disillusioned by Canon's direction. Not only was Canon criticized in Compaq, but he was not perceived as a company.

Coming from an engineering, background, Canon had believed that Compaq should stick to design and engineering, even if it cost in the long run the best quality product and the most profitable products could be produced.

Consequently, by 1983 this philosophy had led Compaq to start selling itself out of

the market. Board chairman Ken Rosen cites a good example of this mistake in the Compaq case: the company would look out the first possible gold-plated connection to use 16 in its machines as their connection would guarantee performance for 16 years in use. That was, however, a big price difference between competitors that would last only supply for 10 years and those that would make it 15 years.

**Our costs were 40 to 50 per cent too high and if we were not even willing to fully accept that, how could we plot our future direction?**

Rosen and Phillips believed that if they could make the PC significantly cheaper by switching to 10-year components, it was worth the risk, particularly since the unit would be expected to make out the same PC for 16 years in use. The systems launched in June of 1983 showed these changes and ended the company back onto the road to dominating success.

Phillips says that taking the necessary decisions to make these changes was also a costly feature. "We did this in a relatively short time and the old management team was out from the middle. It was difficult to get any consensus in a few weeks. The management team was strong and what happened as a result of it. There are no other examples what are the strengths of the company and how can we fix it. Our costs were all in all just too high and if we were not even willing to fully accept that how could we plot our future direction?"

Phillips' vision, however, went beyond the immediate operations of cost-cutting and

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exploring the desktop direction. He wants all the company to have a greater sense of mission.

"We made the decision that we want to be the suppliers on three in the industry and to do that we had to leverage our model into portable and high-level desktop computers," he says. Another goal that he mentions was apparently skipped: telling Phillips that "it wasn't good if you can do it but weren't born in the same town (that you weren't so fast) because the situation is surrounding it."

Compaq had its knowledge of market scope, change and add to its traditional desktop channels and pick a different go-to strategy. Phillips also said that the new strategy meant "taking responsibility for supporting the customer directly" in the first case, something Compaq had traditionally left to its dealers.

"It was the launch of a new era — from something that we wanted to be and had been so excited to focus on — and then to see changes in the way of design and manufacturing to bring that about," he says. "We also had to consider customers around the world that we were no longer the premium plus. Most of company (they had servers) used us. It was a very big change."

#### The Personal Gamble

With the launch last year of its ground-breaking Pentium option for the home and small business markets, Compaq made sure that it was no longer going to ride out on the corporate market.

And Phillips says the dealings, Compaq started to move away from its "old business model" whereby Compaq would take on total possession and a Microsoft operating system and a little color through innovative hardware design and pay a fee on the shelf of authorized Compaq dealers.

With the Pentium, Compaq moved heavily into traditional consumer electronics sales and into every local retail store as its sole processor supplier (AMD processors are used in the latest Pentium systems) and produced a computer that looked nothing like Compaq had ever produced before.

"On the consumer side, we do have to be more of a player," he admits, suggesting that the consumer market requires the company to rethink the limits of products it produces for itself.

In this arena, Compaq has been working on a number of prototype PC-based systems that look virtually different from today's PCs. Compaq wants to sell these systems as home and entertainment appliances that will come with a touch screen with TV and video capabilities or chip to do with other PCs.

One design, called next generations for a second year, that is the result of a long-term partnership with Intel, looks like a little Pentium-based system with a CRT screen for a network, equipped (built-in speakers for use playing live that comes a mini bar for the display and a keyboard shaped like a mouse).

Called "the PC Home", this device is a reference of just how low-sticking the once-sturdy standard of Compaq has become. Also under development is a design that looks like a tall "tower case" device with built-in screen and CD player (described as a "focus group" of teenagers) and will have special design designed for the internet.

#### The Competition

Phillips also has to go on about the recent announcement by IBM and Apple that they will design to a common hardware standard

for the systems the two companies are developing for use with the PowerPC processor technology they developed in conjunction with Motorola.

He says the announcement was always pending from a period of time and Compaq has made no secret of the fact that it has actively considered using PowerPC but has decided against the technology for now.

"It remains to be seen how effective this will be," he says. "PowerPC is not on our radar, but it doesn't mean that any will be made. There are a number of statements that can

be made in the effectiveness of the chip and the design of the family of chips that are very positive. But it takes a lot more than a good chip to bring about a change in this industry."

Phillips also noted that, for the time being, any possibility that Compaq will become the Apple-IBM-Motorola-PowerPC operating system is out on any future Compaq products. He says that at the moment he doesn't see "what would make that a truly desirable solution for customers and provide a serious, wide advantage for the medium term."

None of this is to say that Phillips doesn't want lots of alternatives to be used as a processing supplier. He does and a cost chip about saying so. "Coming on all these standard (he looks to the real challenge for the industry," he says. "And even if there was a PowerPC chip that could run Windows as well as Intel, why would customers be interested in making a change today?"

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## Compaq Computer

Continued from page 15

was buying in Intel's stores all through last summer — Compaq's results published up with Intel as largest computer processor supplier (and would within this year, its only processor supplier).

Compaq is not happy with Intel spending millions of dollars to create an "Intel-clone" brand awareness, does not like the fact that Intel builds only one complete PC's for some original equipment manufacturer (OEM) customers such as Hewlett, and generally allows Intel to compete with its first customer—Compaq. Pitblow says he is also unhappy with the availability of supply on Pentium processors for which Compaq must stand in line with other PC manufacturers, despite the huge volume of its orders and its long-standing relationship with Intel.

"Three years ago we [Compaq and Intel] had a set of disagreements about the way the two companies did business that were working together in business and gradually had did a lot these things that seemed to direct competition away," he explains.

Compaq president, for example, alleged Intel's building of complete PCs for some customers and Pitblow says Intel told Compaq that this was of Intel's business model.

## The Rosen Effect

While Richard Rosen can be credited with saving Compaq from total failure since 1981 in seven-year tenure in 1974, Compaq chairman Ben Rosen may be given the last-ditch man who engineered the comeback to make this happen.

Rosen was one of the key revenue executives who helped Compaq from its inception and has seen the initial \$1 million investment turn Compaq from a weak, obscure corporate nothing into a part of the US business community.

Rosen was also the chief architect of the turnaround story that saw Compaq founder Don Gordon found their jobs as president and CEO back in 1983. There is no doubt that he knew his business, he provided the seed money that gave birth to Compaq, Los Angeles-based, Electronic Arts, Alta Software (the original developer of the Director database) and dozens of other electronic industry start-up companies. He was a founding director of Lotus Development, a minority chairman of the board of Compaq and his firm was on the board of Intel and International and Quadradel Office Systems (developers of the well-regarded DayView point).

It was this kind of involvement with his venture capital investments that landed him on the cover of the Wall Street Journal in June of 1985 explaining why he must help Compaq founder Don Gordon's back to develop and implement a "rescue" plan for the company that eventually led to Compaq's status from the company he founded.

The rescue plan started in October 1983 when Rosen and a couple of mid-level Compaq managers got the small Compaq computers back down on Los Angeles to a small station — so soon that the board chairman asked the employees not to sell more Compaq CEO Don Gordon, to a more detailed to help Rosen understand just why Compaq's CEO had been able to run so deeply in. In Compaq's once-commanding market share, he got those Compaq employees to go as managers looking down upon their own small PC company. Within a few short days, the team was able to buy and then assemble all the components necessary to make PCs compatible to Compaq's own designs at a price far below what Compaq was charging. Rosen determined that the company could actually handle PCs far more quickly than Compaq's own liquidated resources had been selling the market.

Armed with the information, Rosen visited Los Angeles meeting a couple of days later. It turned out to be Compaq's last board meeting. He and Rosen agreed for some 14 hours over whether it was worth the PC product could be made early in time for the early 1985 launch. Compaq and they should move quickly. Rosen wanted there to move quickly and aggressively — and was willing to demonstrate to the board that the company could move that quickly.

The board bought Rosen's idea. And in the board and in the past three years have introduced a number of new, innovative options and smaller file machines that Rosen envisioned when he was the "rescue" second Compaq in late 1983. Compaq was apparently deeply hurt by Rosen's success, particularly given that close working relationship that Rosen's decade. He then must however, has been seen to discuss their personal feelings about business changes.

Shortly after Rosen's "palace coup," Gordon was replaced as CEO by Richard Pitblow. Rosen is disappointed about his role in changing Compaq's way of doing business. "We re-examined every aspect of our business starting at end of October 1983," he says. "And in the period since then, we have effectively changed our product strategy and many aspects of our financing, our structure and pricing, but without identifying the qualities which made Compaq so special in the past." □

be "de-emphasized over time" and that Intel would not be deliberately growing that part of its business.

That did not happen to Compaq's satisfaction. Pitblow says Compaq made that was also to Intel. "We had discussions with Intel at every level with various side agreements and deals," he recalls. "And we reached a point where we said we would be looking for a mutual source."

Pitblow did not buy Intel's argument that it couldn't give Compaq better treatment lower order customers if it that might create and run sales in the US government (that was the subject of a sales investigation by the US House of Trade Commission (PTC) in late late 1984 and early 1985).

"We are still Intel's number one customer and Intel knows it and we know it," he says. "And given Apple and IBM plans to both mainframe (PowerPC) systems, Compaq is even more important."

In short, Compaq is hoping that Intel will learn that old American business motto "the customer is always right" and start acting on it. Otherwise, Compaq is hoping that there will continue to be other prices to which to cut into his business. And given Richard Pitblow's track record on how there seems to be at the company's order, you can be sure that he will do everything in his power to make this happen. □

## Makin' Dough with Your Computer

BY KEITH SCHENGILI ROBERTS

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Printed by Barry Johnson on the Internet (http://www.bj.com)

The book lays out 11 possible jobs you can make for yourself with your PC, ranging from data-entry service to on-line business. It includes a list of software options for in setting up your own website on the Internet, while still in looking for the

section of the book. It is emphasized that you should do some research of your own time, and clearly chosen list of work. The book also includes a general list of what to look for and how to choose the right computer hardware and software for you. It's

If you have the entrepreneurial spirit in you, you need a guide to help you get started. This is an excellent start.

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Let's see what we can do for you.  
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**H**ere's one that's both a word processor and a fax machine. It's the HP OfficeJet. It's the only fax machine that can print and copy. It's the only fax machine that can print and copy. It's the only fax machine that can print and copy.

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The HP OfficeJet is a word processor and a fax machine. It's the only fax machine that can print and copy. It's the only fax machine that can print and copy. It's the only fax machine that can print and copy.

based system from Brother, the IntelliFax 2400ML.

Other than the difference in output color, the HP and Brother units is the fact that the OfficeJet comes standard with the ability to connect to a computer in a printer mode using the popular Desktop, while the Brother IntelliFax requires a "Modem Link" or a "Fax" adapter. The IntelliFax includes no other printers. The fax machine with a Brother device supplied with the Modem Link software. With the Brother Link device, you can print from any Windows application.

We saved the copy function using fax documents and photographs. But, that the OfficeJet was an IntelliFax copy, not a Brother copy. The OfficeJet's reduced output slightly (20%) while the Brother output up to 10%.

The quality of the copy is a much more important issue. In fact, the HP's copy is a much more important issue. In fact, the HP's copy is a much more important issue. In fact, the HP's copy is a much more important issue.

Once again, the Modem Link software allows images to be scanned and stored, and

then to be imported and exported in PCX and TIF formats.

### Good listeners

Both the IntelliFax and the OfficeJet are able to share a single phone line with an answering machine and a telephone. IntelliFax's only handling incoming calls correctly in one line. The IntelliFax works like a fax on the phone, rings, plays its message and beep, then the IntelliFax "IntelliFax" with the unit and maintains the fax machine mode as the LCD of the fax machine shows the status of the incoming fax. A moment later, you print the paper. Figure 2 shows a sample from each unit.

Each unit has the ability to "forward" a fax to multiple destinations. Both units also include support for the "Electronic Mail" browser offered by some phone companies.

The IntelliFax's faxing Link option requires an address book database for its members. The IntelliFax also allows you to set up a personalized fax campaign: the HP unit has a fax campaign feature.

The IntelliFax has a faxing feature that allows you to fax documents to a fax machine. The IntelliFax also allows you to fax documents to a fax machine. The IntelliFax also allows you to fax documents to a fax machine.



Original document

EVER THOUGHT THE NORTH?

Fig. 1(a)



EVER THOUGHT THE NORTH?

Fig. 1(b)



EVER THOUGHT THE NORTH?

Fig. 1(a) & 1(b) Fig. 1 (a) shows our original printed using Brother's copy function. Fig. 1 (b) shows our original printed using the HP copy function.

Fig. 2(a)



EVER THOUGHT THE NORTH?

Fig. 2(b)



EVER THOUGHT THE NORTH?

Fig. 2(a) and 2(b) Photo Fax Machine. 1000 Series from Brother to HP. 1000 Series from HP to Brother.

Product Name	List Price Page	Printer Resolution	Cost per Page	Scanner	Copy	Copy Resolution	Notes
OfficeJet	\$209	400	1.5	Yes	Yes	300x300	No
IntelliFax	\$209	400	1.5	Yes	Yes	300x300-copying	No
OfficeJet-PC		600x300	1.5	No	Yes	300x300	No
OfficeJet-Office		600x300	1.5	No	Yes	300x300	No
IntelliFax-Modem Link-PC		300x300	1.5	Yes	Yes	300x300-copying	No
Series 1000 Series	\$105 & up	300x300	1.5	Yes	Yes	300x300	Yes

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# Xerox 3000

*Combines Fax/Copier/Printer/Scanner*

(NE) — Xerox Canada Ltd., of Toronto, is introducing its all-in-one "Document Center" for the small office/home office (SOHO) market. The company says its Xerox 3000 systems combine printing, faxing, scanning, and copying into one machine using ink-jet technology and producing 300 dots-per-inch (dpi) and up to three pages-per-minute printed output.

Speaking in Newbyes, Josh Milliken, product marketing manager at Xerox, said, "What the announcement is all about is productivity and saving money and time. Xerox has focused on multi-processing and multi-tasking to bring the most integrated way to an individual possible to market."

Xerox introduces the entry level model of this 15 pinhead machine with 400 lines for market at a street price around \$1,000. The 3000 system consists of three different models: the 3003, 3004 and 3004. The 3000 comes with one machine and a 9 inch line per-second copy rate for market. The list price will be \$1,495.

Along with the 3003 model, the 3004 will be available until January 1995. The 3004 comes with the connectivity package described below and includes five different units with a 14 000 lpi line/minute. The list price will be \$2,115.

Model 3004, with a list price of \$1,995, comes with the 14 000 lpi line/minute and has 10 machines. The 3004 is shipping now and prospective users should expect to see this model on retail shelves sometime during November. Xerox says it plans to highlight the 3000 Series at Comdex in Las Vegas in November. Model 3004 does not include the connectivity package.

An 4-copier for 3000 system provides color, fax, scan and copy and for the copiers allows faxing of documents to and from personal computers and fax machines. Xerox says the machine's memory holds as many as 15 scanned pages of text and individual machines may be used to store pages in a shared office environment. A connectivity upgrade is available for \$199.

Designed for both large meeting rooms and small networks, the 3000 series offers a dual access capability allowing one user to print a document while another simultaneously scans a different document.

For an additional \$299, Xerox provides a connectivity package which allows a user to fax directly from a personal computer and scan documents into the PC's hard disk. The package includes a user and cable. Xerox's True Image 3003 optical character recognition software for retrieving and storing PDF files, better life and a fax manager for auto-dialing. The connectivity package is not available in delivery until January 1995.

When asked whether this new machine is rated a printer, scanner, fax machine or copier, Milliken said, "We just call it the Xerox

3000 because it does everything." Xerox is careful in pointing out that built-in modems are not data modems.

From other sources, Milliken has learned the company may be planning a later model to follow and, consistent with the research and development lab, technicians and designers

are working on improvements which will deliver color technology to small functioning machines such as the 3000 Series.

The 3000 is now available from Xerox Canada at a list price of \$1,495. The Xerox 3003 will be at \$1,495 and the Xerox 3004 at \$1,715 and both are to be available in

January from Xerox. An upgrade to enable the 3003 and 3004 to do scanning and fax machines will be available in January at \$299.95.

Contact: Xerox Canada, 400-600, 6000

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## Who Ya Gonna Call

Continued from page 22

beginning of how customer support is set up, expect to make an effort for everything from several minutes to an hour or more if you want to talk to a live operator. Several hours is not unheard-of. This will be especially true if you don't have a spare phone and something to occupy your time while you wait, and doubly painful if you discover that the support person can't help you.

Be prepared for the worst when you pick up the phone. In my experience, you'll get satisfaction only about two-thirds of the time. If you don't better service than this, many service departments and department headshrinkers provide no direct employee support for a wide range of situations.

Even call a product support line for your laptop, help with a piece of software you "bought" from a friend. No public-domain software is less charitable; you haven't got paid for unless the department was specifically there for you, say it is.

### Call vendor support lines:

- when a specific piece of software or hardware is giving you problems and there is no service address in the manual;
- when your problem has your hard drive, your disks, tapes and/or peripherals damaged;
- when repairs, adjustments and software troubleshooting haven't helped;
- when your best friend tells you that the problem is related to their product and you need help right now.

### Hardware and Software Vendors

- when your dealer (and expect to either wait for a answer or be expected to take your system to the shop);
- when you have problems with the hardware or software which come with a system you purchased here close, and the system is still under warranty; Your dealer may still refer you to the manufacturer or publisher's product support line. They may also refuse to help you without payment. If you have added hardware or changed the software which came with the system;
- when you've just bought a CD-ROM system or other accessory and can't get it to work. If you're not directly familiar with the hardware, you'll have your dealer install and set it up. This also goes for video cameras, film, film loaders and film printers, color and portable if power not comfortable with installing new software. If you should be additional hard disks, tape and tape systems, peripheral cables, memory upgrades and external monitors.

### Private Factors And On Site Troubleshooting

- when it's cheap support. Generally speaking, for live facilities and various other users it will eventually become indispensable. Combined with an account with a good service and an ethical dealer, capable of doing additional troubleshooting can make the difference between simply being a user and making the most of a service or tool.

### Call a tutor or troubleshooter:

- the help in learning how to create and manage files and folders. It takes more time to teach this skill than you should normally expect to learn a kind or neighbor.

- when you want your system menu changed or updated. Your local tutor might consent to do this for you, but commercial menus are an optional upgrade. The tutor might, alternatively, show a expert to get them for himself.

- when the manual makes no sense to you. All too often software and hardware manuals seem to be written by a committee of bureaucrats. A tutor with enough common sense can bridge the communication gap between you and your computer in ways no manual can.
- when you purchase a first family computer. Find a tutor parent enough to sit and with the whole family at once and gather everyone around the computer while they show you its skill. One of the chief features of relatively young kids is to learn to take it too seriously to work too hard to it. Most without thought, if one member of the family has learned a particular command, another will have memorized the good information.

- when you need your hard disk, printed document information unless data over the year. Assuming this means you intend the useful life of a thinking hard disk, and any thing you can do to prepare an upgrade will save you money. Don't attempt this job on your own unless you've made a full backup of your hard disk and you're prepared to do at least one complete restoration. Most times almost always make a few manual files. Recovery programs are particularly invasive and difficult, if one member of the family is already a computer or a qualified expert. If the way answering from their Program Manager disk (NOT remove the disk) will save your system. You have to go in and manually save the file.
- when you need advice on productivity applications. A strong choice in this area will call you last time, usually and perhaps even a presentation on your job. The very many of advice from anyone who is not familiar with your field or with computer trends in business software. From the advice of colleagues in your own industry should be taken with a handful of it and when you're sure that they thoughtfully investigated their options before offering an opinion.
- when you don't know which hardware or software is causing a problem. Most problems are software related, even when they look like hardware ones. Vendors tend to be less qualified to the software problems than troubleshooters and professional users.
- when you find time or more progress maintaining the same practice or automated behavior and the problem is not occurring on a brand new system. In this sort of problem, copy up as a new system, even if you don't have the money to spare.
- when you've purchased a new system or done a major upgrade and are using up all the available efficiency and time of use. This sort of work is best presented by a qualified tutor or consultant. It won't be long until we have support people who specialize in

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Continued on page 26

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## PC Shortcuts

Continued from page 27

multimedia capability is a standard feature. "About 75 percent of home PCs are buying CD-ROM equipped models," said an IBM representative.

The basic price in age-stamped buyers think is reasonable for a home PC is about \$2,000. "Add a 3.5-inch floppy disk drive and buyers are tempted to allow the price to multiply upwards to get a CD-ROM drive, more RAM, and a faster processor," he added.

According to a Dell spokeswoman, "As the price differential for Windows has dropped over the past couple of months, we've seen the proportion of home PCs with that processor rise."

Apparently a lot of custom "entry level" PCs buyers are finding a difficulty to resist spending for a "system-on-a-chip" system at the high end of the \$1,500 to \$2,000 price range of most home PC models.

We attempted to get a good cross-section of some of the most popular models currently available in the Canadian retail market. We removed computers from IBM, Apple, Compaq, Dell, Dell Packard Bell, Dell Video, Hewlett-Packard, and HP. Finally, we added: Acer, Alien, and IBM. Due to time and availability constraints, requests for evaluation units from IBM (Amibio), Packard Bell, Gateway 2000, HP, and VTech could not be obtained in

time for our game-testing. (We expect to have another roundup PC hardware survey later in 1995, as it starts to slip around models that you'd like to see tested, let us know here in The Computer Paper.)

## Here's a brief description of the models tested:

Compaq Presario CDDV 330: "Nice for PC, Nice For TV"



This was one of the most entry-level, complete home PC systems (RAM, HD, CD-ROM) we compared to some of the other models. The CDDV 330 model we evaluated

## Why Do I Need A New Computer?

Why quite frequently get letters from readers bemoaning the lack of coverage of personally convenient but old computer platforms? It's true, as I've said, we're using MS-DOS 2.0 and Windows 1.0 as it is for word processing, and a little reference applications. It's also what I need a computer to do, it's a pain, and make life. Why do all the computer magazines seem to be trying to persuade me to get going and buying the latest and greatest computer, when I'm perfectly happy with what I've got?

"Why, indeed?"

"Well, maybe you don't."

We at The Computer Paper are quite sympathetic to the wide spectrum of personal computer users including the huge numbers who have "old" computers. We're home computer users too. We understand that buying a PC for the home or small office is a major purchase, and we're not here to tell you to buy one and upgrade the next year. Switching them, grow old as the industry moves so quickly forward, and learning to live with their limitations. Part of the art of computer using is getting maximum make-out of one's PC, and part of the art is knowing how and when to upgrade. We're not trying to make owners of old computers feel inferior or inferior, but we think that most readers want to know about what is new and interesting, and what it might cost to get the latest computer system.

### ...But We Can Dream, Can't We?

A computer is an antique machine — it's a fact and how pleasantly it interacts with its human user is pretty important. And, depending on what applications we're trying to run on it, it's pretty important to understand how fast and productive a particular computer model is compared to others.

At computer technology and software applications have grown more sophisticated, to have the cheapest or cheapest systems — games, from 2-color displays, we now want 16-bit million colors, from 40 kilobytes of RAM, we now want at least 1 megabyte, or a full 16 to 32 MB and up. From floppy disk to compact disc systems, we now look at a computer with a 300 MB drive as an "entry level" system.

In a sense, if all we ever wanted to do with a computer was to write letters and get online to a BBS once and then, that too again might be as simple as a word Apple II or C44 at a single user, and only use a hard copy group for information, information, and the internet. However, what we're not doing is doing with computers has expanded with the advancing technology.

Multimedia capability has become the most desirable feature for PCs, according to studies such as Dell and Compaq. "From word PCs to be the first tools to use with such watching, learning and creative capabilities. People wanting a home office or telecommuting between a central office and the home want to run the leading edge business applications that their clients, co-workers or employers are using. And as computer technology gets cheaper and cheaper, 386-style power can be had for the same price as a C44 was in its heyday in 1984."

For an old computer get letters from their state of dissatisfaction, they become "system" machines to do things as well as do as other electrical appliances, sometimes run out of parts but to fail and leave and lower service technicians often support it.

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**Black Panther XXI** (1-9) \$3.49 ea. 10-49: \$2.99 ea. 50-99: \$2.35 ea. 100+: \$2.15 ea. This is the twenty-first of a new series of games that will be released in the near future. It is a fast-paced action game that will keep you on the edge of your seat. It is a must-have for any PC gamer.

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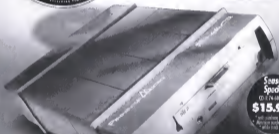
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# Benchmarking The Benchmarks

that we've seen in the past and make it a little more difficult to use. The new Windows 95 will be able to handle the same amount of data as Windows 3.11, but it will be able to handle more data than Windows 3.11. This is a good thing, but it's also a bad thing. It's a bad thing because it means that you'll have to deal with a lot more data than you did before. It's a good thing because it means that you'll be able to handle more data than you did before. The bottom line is that Windows 95 is a good thing, but it's also a bad thing. It's a good thing because it means that you'll be able to handle more data than you did before. It's a bad thing because it means that you'll have to deal with a lot more data than you did before.

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de more specific, technical manner of system configuration and performance. It is available from IBM Corp. for a nominal fee and it is excellent tool for a PC user as long as you have a reasonably current PC with a CD-ROM drive and lots of disk space on your hard drive to test a "file in password" benchmark of 200+ test computer.

#### Check It Out Before

Translators between Corp. produces a very comprehensive package of troubleshooting and diagnostic software which allows a PC user to detect initial number of technical issues, ranging from benchmarking system performance to diagnosing hardware problems. Finding setup problems, recovering system errors and checking for viruses and installing and testing new equipment. It also comes with a set of feedback plug that can be connected with a printer and other ports on your PC to test input and output signals and provide full real-time LPT ports.

#### The Monitor Utilities

System's popular set of DOS and Windows utilities allow the ability to analyze the hardware and software configurations of a system. Though it is not intended to be a complete benchmarking tool.

#### Diagnose

This company, along with Translators, is the choice of many computer manufacturers for professional level benchmarking and diagnostic software. They make a wide range of different benchmarking tools for the whole range of PC industry hardware including IBM/PS/2 and compatibles. You may not need every utility. Check it Out Before in the QIP/PS/2 list of products to evaluate outside PC to know exactly, how these floppy disk based programs can be easily loaded onto computers that lack hard drives.

#### PC Tools

This set of utilities from Control Point Software Systems Inc. allows a user to analyze the hardware configuration through it, like the Monitor Utilities, is not designed specifically as a benchmarking system.

#### RAPO (RAMOS)

RAPO is a non proprietary company established by study of the major readers and publishers in the computer industry including Microsoft and Intel. The aim of the company is to develop objective, accurate measurement tools that can be used to test performance across the industry.

In recent test operations, RAMOS/MS shows a lot of common features with IBM Data Windows 94 (IBM links it as one of the partners publishing RAMOS). RAMOS/MS is a CD-ROM based benchmark suite which contains complete version of a group of the most commonly used PC software applications like Lotus 1-2-3 v4, Corel Draw v4, MS Word, Pentium Display Manager, Power Point, MS Word, and Power Point for Win v 4.2).

In developing this software, three files were tested on an Intel 80486 Desktop PC: a 486DX33 with 64MB of RAM, a Canon 100-34000 hard drive and a Translators 14-700. The typical test operations have simulated the operational usage cycles derived from recording how typical computer users operate software programs in and out. RAMOS has testing facilities where people are monitored and recorded as they use computers, and the result is that RAMOS/MS automatically runs a comparison through its ports as though it were in the hands of a "typical" human user.

The result is a table of performance results as a series of categories: Word Processing, Spreadsheet, Database, Drawing Graphics, Desktop Presentation and Desktop Publishing, as indicated in the table accompanying this article. The program also creates a full technical report, which gives a detailed description of the system hardware and software configuration.

RAMOS/MS requires a PC with at least 4 MB of RAM (386 recommended), a CD-ROM drive, and at least 120MB of free hard-disk space. All of the models tested were selected on the

basis of meeting or exceeding these specifications. To install RAMOS/MS you put the CD-ROM into the drive and exit Windows into DOS from the DOS settings you change after going to the CD-ROM drive. The result of software is the RAMOS/MS suite loads easily from the CD-ROM drive to the target system's hard drive as a DOS command.

RAMOS/MS automatically updates the original AUTOEXEC.BAT and CONFIG.SYS files with any updates, and takes over the system using its own "Win" version of Windows 3.1. At this stage, the user is confronted with a

supplied Windows screen, without any loss to applications software. All you can do is run the RAMOS/MS benchmarks.

**Any Color You Like: As Long As It's Black**  
The standard Windows 3.1 environment is designed to prevent "crashing" or unstable results that could be obtained by the tests using a customized Windows setup. A patch/patch support plug, included in the package, is attached to the test user's profile for in order for the benchmarks to run.

Continued on page 37

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brush, which lets users create masks based on specific colors and correct colors by adjusting hue, saturation and brightness values. CMYK features provide a "soft proofing" capability that lets users preview their results in CMYK without first converting the image. Screen Warping highlights any areas in an image that are out of CMYK gamut. Users can also bring colors back into gamut for correct color reproduction output.

The redesigned user interface provides other enhancements, such as floating palettes, a new Commands palette and new drag and drop features — all of which allow users more control over their workflow.

Multiple images can be quickly composed with the new Layers palette option. Using this tool, users can draw, edit, or use effects and move on different layers. Different sets of images can be used for placement, and special effects can be used without distorting image data until the desired effect is achieved. An 8-bit alpha channel mask, called a Layer Mask, can also be created on any layer, enabling users to apply effects to a layer, vary the opacity of a layer, and use character cascading commands on a layer without loss of layer information.

New lighting effects can also provide with Filters — a powerful optical model for image retouching and special effects experimentation. Multiple lighting effects are supported via multiple light sources with a range of colors, intensities and angles. The Dust and Scratches plug-in filter now works to remove dust and scratches from scanned images for improved scanning and photo restoration. Custom filters can be created, saved and plugged-in using the program's new Filter Factory.

As with a growing number of high-end software applications, Adobe Photoshop 3.0 will include a CD-ROM. This CD-ROM will include a copy of Adobe Photoshop 3.0, Adobe Acrobat Reader, user manuals, stock photography, and a digital art show. A sample collection of third-party plug-ins that take advantage of the program's cross-platform plug-in architecture will also be included on the CD-ROM. (Initially, a second CD-ROM is included with Adobe Type 1 fonts. Fully printed printed documentation is also included.)

Each window will cost \$195 and will include Acrobat/Reader and CDROM. The street price should be about 140%. Registered users may upgrade directly from Adobe from any previous version of Photoshop for \$140 plus a small handling fee. Users who purchase Photoshop version 3.0 after June 14, 1994 can call Adobe at 1-800-833-8887 for a free upgrade. That's about the sweetest deal anyone will find information.

The minimum requirements for the Macintosh version are a 48603 with System 7, and at least 4 megabytes of available RAM and at least 20 megabytes of free hard disk space.

Despite the fact that, prior to the program's release, Adobe promised that the Windows version would run on systems with 4 megabytes of RAM, the minimum requirements for a PC is, in fact, to tell users. You need an Intel 386 or a 486 or a Pentium with MS-DOS 5.0, Windows 3.1, Windows for Workgroups 3.11, and Windows NT 3.1, 80 megabytes of RAM (4 megabytes for Windows NT), at least 20 megabytes of free hard disk space, a color VGA display adapter and compatible color monitor, and a laser or other printing device (3 — Mac/Am).

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justly spending over \$150 in software that you might use only once to order. However, landscape software does promise to help you get the job completed on easily. And even better, it is much easier to dig and dig! It has been so much easier on the computer screen than it is in physical dig-it-up-and-move-it over a few feet because you had to build fully visualizing the end result.

#### More Features Coming

The trend in the market is toward full-featured products that also replace and even take over. All capabilities are capitalizing on users because it allows them to get an eye level feature when they're viewed.

In the landscape is also many of these programs have become important selling tools since they allow landscapers to give potential clients a feel for the look that property will have all the landscape has been installed. And the plans can quickly be altered, the user often plans to sell the final design plans. (United based on some popular landscape and good-looking programs and an overview of some of these capabilities.)

## Design Your Own Home Landscape

**From Price** \$599.00  
**Platform** DOS (2.0 or higher), 486, hard disk, mouse, 1MB of hard drive space, 800x600 or higher screen, 3.5" or 5.25" floppy drive, 1MB or 5MB of hard drive space, 1MB or 5MB hard disk (not recommended).



**Design Your Own Home Landscape** is aimed at the larger home-owner market and is available on a variety of levels. Although there are better choices for the professional landscaper, none do use the program. Design Your Own Home Landscape gives you the ability to display your landscape plan from the different perspective, right side, front, back and overhead. It also allows you to sign your name.



The graphics for this program need to be very simple and clear, and even more so that. One of the drawbacks of all landscaping and garden software is that programs do not create plant material that can really be connected. For instance, a tree is depicted back like a triangle but you will usually have to hope you can identify it properly. It helps some day, we will see more realistic-looking material but this would have been difficult since there are thousands of common landscape plants and many of these come in



Design Your Own Home Landscape

different shapes, colors and growth habits. Design Your Own Home Landscape does not a wide variety of ground surface and textures so that you can add your results.

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here offers a CD32 based landscape package as part of its Home Series. Home Series Landscape is relatively easy to use there is a design tool for the homeowner. There are also many landscape professionals who have decided to use this package for their own jobs.

The Home Series Landscape is not a computerized program and the designers must use the program to design the landscape. You should be up and running within 30 minutes. However, the program may be one of the toughest ones to master. It is not difficult to learn, but it takes time to learn the features.

If you have experience using DOS based CAD programs, Home Series Landscape is a snap. This is especially true if you have used General CAD (computer aided design and drafting), the program on which this is based.

Because Home Series Landscape is a Windows program, it may not appeal to computer illiterate. One of the very powerful design programs with many important features. The landscape program design (3D) field can be exported to AutoSketch and other CAD programs via the Home Series. This can also be used to convert other formats as well. Also, the program has a built-in 3D viewer that gives you an alternative to viewing the landscape in 2D. The 3D viewer gives you the 3D program as it is being rendered when you can look at your landscape from different angles. The program also generates a topographic map which can be exported to a spread sheet, elevation program or other program.

I had expected the manual to be difficult, but being a CAD program. However, I was surprised to find it very straightforward and easy to understand.

Compare with its larger CAD cousins, this is a precision design program. It is a fairly simple and easy to use program for landscape designers.

Home Series Landscape is also designed to work together with the other Home Series programs. This is an advantage because once you are proficient with Home Series you can use other Home Series programs such as Home Sketch to help you.

Home Series Landscape comes with a 300 printed layout. Despite its "home" name, this is a powerful program that many professionals use.

The company also markets the Home Series CAD (computer aided design and drafting) and AutoSketch (2D). There are many other landscape modules and also the Home Series products.

### 3D Landscape

Price: \$199.95  
 Price: \$249.95  
 Features: Windows 3.1 compatible, 3D view, 3D rendering, 3D printing, 3D animation.

One of the best new tools of the season is 3D Landscape from Home Series. 3D Landscape has a good share of support.

Thanks to its inclusion in software and print out by Home Series, Home Series Landscape has been spotlighted. 3D software along with its features and other industry leaders operate that this is the best way of creating. Higher sales can be obtained by using 3D programs and those in the world are numerous but systems evaluation which will perform best will be a top of the line program.

Clearly enough, 3D Landscape does not need a lot of support or work and will run on an IBM PC, although you probably will find that it will be very easy.

3D Landscape comes with a library of 400 different plants. One interesting feature is

Continued on page 32



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## Gardening Software

Continued from page 34

year's working in the Windows environment. Of course, you will find much more computer power to run the program (386 with 640 or 8MB) but you are also getting more value regardless. The online help in Windows is new to use and the program has a very similar feel and look to its DOS predecessor as well as adding the same tools, such as being able to provide materials lists and cost projections.

One of the best things about the Windows version is the online manual which is very thorough and includes everything from getting help to how to design and test the garden system. If you are new to the Windows environment, there is even a tutorial on how to use Windows features so that you can be up and running quickly. I wish that all the design programs had built-in tutorials such as these.



LandDesigner for Windows

LandDesigner Pro for Windows is the top of the line software from Green Thumb. It has the ability to generate elevation views. With LandDesigner Pro, you only have to update your material prices once and this information is automatically used with all designs. In LandDesigner Pro you get 300 symbols but you can also make your own symbols and add it to the symbol library. Tree libraries are sold separately for \$29.00 each or \$45.00 for the Pro series. There are discounts if you purchase two or more libraries as it is a good idea to call and find out the prices and libraries available.

LandDesigner Pro has been well received by the landscape trade, and is probably the best overall landscaping software available. LandDesigner Pro sold separately (\$29.00) allows you to design sprinkler systems and aerial irrigation systems using real parts from the parts library, which includes Hunter Rain Bird, and more. Other manufacturer parts will be added to some versions. You can get both LandDesigner and LandDesigner Pro for \$199.00.

Green Thumb Software has also introduced its LandDesigner Multi-Media for Windows. At the core of this CD-ROM is a Green Thumb's high quality landscaping program. To bring the landscaping business to gardening, Green Thumb Software put up with White Flower Farm which contributed over 1,000 full color photo images.

This program is better rich and although I would like to see much more plant material in the database, the program is powerful fast to engage and anticipate the direction in which garden design software is heading.

Land Designer Multi-Media for Windows runs like a hand in the garden industry which is easy to use. The databases are very thorough which makes planning a pleasure. One fea-

ture that I truly appreciate is that you can learn and learn how to pronounce the plant names. If you are stumped for ideas there are suggestions that you can use and send to your particular taste.

There is also a comprehensive set of drawing tools and you can create a garden up to 150 feet in size. Other useful features include the program's ability to calculate the cost of your new garden and even print it out for you. This product is a truly useful Land Designer for Windows with all kinds of goodies so that it will appeal to beginners. In

fact, the company has succeeded in producing a first class product that, along with being practical is fun and educational!

## Garden Companion CD

**Item:** Garden Companion  
**Price:** CD \$49.00  
**Platform:** Windows 3.11 (requires 4 MB RAM, 10 MB recommended), 10.000 you also need Windows, mouse, printer and sound card (recommended).



Garden Companion CD is built around a performing system designed to help you choose the best plants for your site as well as providing you with a maintenance schedule for the plants you choose. The CD comes with an encyclopedia of

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1,000 plants with all cultivation requirements. I know that this is already sounding like a lot of work, but at least this program does not hide the fact that plants and gardeners need insurance.

The photographs are high quality and are provided by Derek Holt, one of the most famous garden photographers in North America. His is a high quality product but it is of limited value for those of us living in northern climates. We can't forget about designs and plants best suited for desert and

warm climates as well as other plants that thrive better south.

More information about southern plants would be helpful and appreciated. After all there is much to a CS-5000 — it's meant to hold tons of information.

This adds, I really liked this product. I wish I will be going to plant my own garden, I especially like the feature where you can choose from 10 garden designs. These

*Continued on page 41*

## When Seed Catalogs are Not Enough

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many innovative features incorporated into this program, the best being the fact that you can supply and modify design a garden. However, you can also tell the program the hardware time in which you are located and it will automatically suggest when to plant, and the types of plants you can grow.

The program also automatically and accurately shows you seeds for the recommended allowance as you will know how much seed to order. This makes the program a perfect companion to your seed catalog when you are contemplating the time to plant for the next growing season.

The program can also generate a menu, list of reports, such as the size of the harvest that you can expect. Also included with the program is comprehensive growing information so that you can learn more about growing and the items you are planning. From the plant database, click on items and you will be shown the planting time, time to germinate, time to harvest, and pH required, spacing between plants and even depth to plant and the height of the plant.

There is also other information available. For instance, if you look up books, it will tell you interesting information about them. For example, did you know pumpkins last year can be harvested and eaten?

I was surprised at how accurate the planting times were for my area and time I watched the information to seed catalogs and my personal experience.

This planning tool is ideal for children or adults. It allows you to plan your garden ahead of time and then to run "what if" scenarios. You will probably get several gardening ideas from the computer since you can explore options and new varieties from the very comprehensive plant lists. If you choose something that you have never grown previously, the information you need is readily available at your finger tips.

There are powerful drawing tools available so that you can customize your garden anyway you like. You can also add vegetables and other plants to the database and then edit to reflect the way you garden.

You can print your garden plans on any page in the three to four day span to many in eight pages. Since the computer calculates yields, you can decide how much produce you want and then use the planning tools to design your garden to obtain this result.

Of course, the software does not replace traditional weather, insect information and other knowledge of issues that can affect yields. Still, the system is comprehensive — and keep in mind that the program is meant to make the planning and installation of your garden go more smoothly and become more enjoyable. □

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**Price:** US \$149

**The Hardware:** The Nova Multimedia Voice Modem based on an internal full card also features voice-mail software. It is a high speed 14,400 bps

Hayes compatible Data Modem with 14,400 bps send/Receive Group III fax or according to the manufacturer, a "complete home office or small business solution in a

single half card design." In order to install the external board, you need an IBM compatible 386-486 or



**M**ultimedia modems that let capable all incoming and controlling voice messages as well as faxes are becoming more and more popular. These peripherals hold promise for those people in business who need to be kept abreast of telephone during the day or the extended periods of time. Many business people need to coordinate sales personnel and control tasks are not able to afford a full time telephone receptionist but are looking for they can have some of the same benefits by being able to receive and redirect their phone mail messages and faxes.

These systems also allow businesses to make messages (for example "Phone I'm sorry, I'm not available. I'll call you back support. I'll call you back") to replace voice mail boxes which can save you the cost of installing and as phone lines with expensive technicians. Of course you can also make your small business sound like a big business while it can be valuable too!

The Multimedia Voice Modem from Nova offers these features and can be purchased for under US\$149.99 from several of the big mail order vendors in the U.S. Of course you can choose whether or not to use the voice mail and receive faxes but you will always have a high speed 14.4 kba modem.

It was completely satisfied with my personal communications hardware and software computer mainly in home. Services from Nova/Modem 4000 internal with Voice Mail software. At first I was reluctant to install boards and software only once with a warning that I wanted to add voice mail and other capabilities to my system. Like so many people in business, I am often busy from my computer and telephone. Modern technology, it making it inevitable that the computer and the telephone will eventually become one with and voice modems anticipate this impending marriage.

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## Voice Mail and More

Continued from page 60

less of unoccupied space if this route out to be a problem.

### The Results

The fax had communications with my group 30 fax lines. It also connects with Class 1 and Class 2 commands. You can send and receive faxes to the background while you continue to work. You can use from any Windows application which has a print command and there are many other features, such as dialing and waiting mode, so that you can dial a fax and wait in line.

One feature is "Fax on Demand" which lets others receive your faxes, so the documents which you have faxed back to them (to the office). This fax-on-demand service (FOD) for a useful way to let your customers look at your changes, problems and other important information. You can also have your faxes received to your e-mail address. For instance, if you use the fax board at work, you have been given to be transmitted to your home. Your Multimedia Mailbox also comes with Canada Line for Windows 1.178 and Canada Line for DOS 1.118.

I was very pleased with the faxing capabilities of this board. However, a document cannot be scanned. But the fax board to send using the fax board has using my Intel/Windows communications typically require documents would take about 10 seconds longer per page to send. It should be pointed out that the later communications also require a more update in price.

In practice, I did not have a problem. I used the fax board to plug up after the faxing. I am not an experienced phone user, so I can plug up. If I have a fax, I simply hang up. If I have the recording, I plug the ground wire which can be the recording and I can talk with the person on the telephone.

However, if I plug at the computer, I could not do this because my telephone was plugged directly into the fax board. To remedy this, I simply bought a cable splitter so that the fax board allows both the telephone and the fax line to be plugged into one phone jack. This effectively turned the phone into an extension line.

Unfortunately, when I did this, I could no longer use the telephone to record my messages or to receive messages. For this reason, I plugged some speakers into the fax board to listen to messages. To record messages, I have to plug the phone directly into the board or purchase a microphone. This problem is common to most fax boards. This problem is common to most fax boards. This problem is common to most fax boards.

Another problem occurred when I did not have faxboards working. I would plug up the telephone and hear a fax. I would

leave the faxboard and often would hear the fax. However, often by the time the faxboard would start and was ready for the fax, the fax would have come.

I also have the Faxboards program running all the time. This is not my preference when I am at home and I find it annoying that I have not been able to have all the connecting functions and features by having the faxboard running when I am at home.

The faxboard is a good addition to your system. I enjoy sending faxes to my fax and phone messages that I may not have otherwise received. Another feature I like is that I can have personal messages for others. For instance, if I have to go away unexpectedly, I can have a personal message to someone and they only need plug a faxboard and give an identification number to find out where I am or when I will be back.

The program comes with some standard telephone greetings that you may want to record your own. If there is more than one person in your business or household, you can have them record their own messages.

### Future Voice

As I do in this article, many companies, including Fox Research, are adding voice modems with built-in sound boards. There are also many other vendors that will be adding voice features to their existing software. Eventually you will be able to use your existing fax/modem board coupled with your telephone and software to have voice messaging and other capabilities. On the other end of the scale, fax boards will have more and more capabilities that will make you computer into a powerful communication tool. Furthermore, you may find that we will be adding to the new year is the ability to plug a video camera into a computer board to send video messages.

On the software end, Delta is adding voice capabilities to its software products. Delta has just purchased Audiofax, an original equipment manufacturer in Lexington, MA and plans to integrate voice/telephony technology into its fax software. Windows Fax will have voice capabilities and should be released early in the new year. Windows Fax will also be adding voice capabilities and this product should be available before the release of Windows 95 according to Delta Systems in Delta.

### Conclusions

As is the case with any upgrade in technology and software, you will also have to deal with more time to install and learn about a system with more messaging capabilities. The technology is quickly changing in the market of the market. In general, I am pleased with this board, however, I look forward to a 28.8k modem with software that is

Continued on page 64

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## Voice Mail and More

Continued from page 62

either more adept at distinguishing between a fax and a voice call or better able to accept faxes manually. I did not find voice mail to be easy — as with any answering system — some people just won't leave messages and therefore I have missed some calls.

On the other hand, I have received messages and even a monthly phone message which are crucial to my livelihood and this has more than paid for the cost of the board and protected the change.

I am also looking forward to better software, as I did get the impression that it is not keeping up with the hardware. There has been many awards for these boards but, unfortunately, more software will have a way to go. It is my understanding that an upgrade will soon be available for the boards that will allow you to dial out the answer to mail or enable quicker manual navigation of files. Perhaps with wide back, this will be available by the time this is published. Despite its shortcomings, I don't think there's a more powerful board available that I can think of right now.

Consistent with my feelings toward several other computer products I can say yes I am pleased with my new communications board (as pointed out I can hardly wait for the improved version to be the model).

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## multimedia

picture. Capture and compression are two separate steps because video input comes into the PC faster than the compression routine can process it. In the last step, you capture the video and store the now digitized video information on a hard disk file. In the second step, you compress this file into the compressed picture format. This step may process compressed data faster than the first step because the compressed video file is also the compressed file that is used to do the file on your master of video. In addition, the file size of the compressed picture is also the file size of the compressed picture. In addition, the file size of the compressed picture is also the file size of the compressed picture. In addition, the file size of the compressed picture is also the file size of the compressed picture.

Previously, source compression techniques used a combination of software and hardware to compress video much more quickly. For example, the last last video format, digital, compresses and stores the video data in its own way. This is accomplished by compressing video technology and having the video picture into the last last video format.

Another single-step capture and compression offers important advantages. It minimizes the cost of PC video because it uses less hard disk space (it will fit hard disk for one picture of video versus 40 to 60 MB). This offers compression the need to add large and fast hard disk capacity to your PC. It also offers compression and time savings because there is no lengthy compression process involved.

#### Video Capture Quality

Single-step capture and compression has an important advantage in that video quality is not as sensitive to the hardware configuration. In two-step capture and compression, the two-step capture and compression video quality is directly related to your PC hardware configuration. The faster the first and last step, the higher the quality.

With two-step capture and compression, all compressed video data must be transferred directly to the hard disk. In many configurations, the two or last-step capture step space with the large volume of streaming video. The system becomes overwhelmed and begins to "drop" frames. As you may not be able to achieve the full frame rate quality that is specified for this video capture technology, a two-step capture capture format called at 30 fps is really capturing the frame rate on less powerful hardware configurations.

Choosing capture and compression on the video board compresses video data before it is transferred to the hard disk. As a result, the amount of data that the hard disk must handle is dramatically reduced—by a factor of up to 10 to 1.

Thus, very few frames, if any, are "dropped" during capture. A single-step video capture board rated at 30 fps will deliver 30 fps even on less powerful system configurations.

#### Distributing Your Video

You can distribute your compressed video files just as you would any other file type — as a standard CD-ROM, as with a network. People who have Video for Windows can play their video clip without any additional software. If you are distributing your video clip to people who don't have Video for Windows, you need to attach a single video player software (not called a picture player) to the compressed file. Video player software is included with Video for Windows and with the last last video board. It is important to note that this step is

The new exception to a larger file size when you create compressed PC video. The author Mark Allen is a local Applications Engineer.

## System Requirements for PC Video

The hardware and software you'll need for PC video depend on whether you plan to create video at your desktop or simply play back video clips recorded by others.

#### Requirements for Playing Video

Your PC may already be capable of video playback. All you need is an hard 4MB microprocessor-based personal computer running the Windows operating system. If the PC should have an 80486/386 or CPT or higher, a hard disk drive, and a 330 MHz VGA board or greater. You'll also need a PC audio board and speakers or headphones, which are usually available and easy to install.

With this setup, you can play back video files that have been recorded elsewhere and supplied to you on a floppy, CD-ROM or via a network. This means that one of millions of video microprocessor-based PCs are potential video playback units, so you can see playing back video in your PC is easy and doesn't require a lot of expensive equipment.

#### Requirements for Recording Video on a PC

If you also wish to record video in your PC, you'll need a few additional components:

- A video digitizing (or capture) board to convert the video analog signals to digital information.

- A hard disk with a minimum of 30-MB free hard-disk space at times.

- A source of video input such as a video camera, VCR or television player which you connect to the video capture board.

- Video software based in video for Windows which includes video capture, compression, playback and basic video editing utilities.

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## multimedia

## QuickTime 2.0 For Windows Ships

BY NICK ANIS

COMPUTERS CANADA Apple Computer Inc. is shipping the much anticipated Windows version of QuickTime 2.0, enhancing the company's strategy to offer multimedia products that are compatible between its latest computer platforms. In the new multimedia tool set, known as Apple Macintosh and Windows-based personal computer.

Company spokesperson Gary Ross told Newsday that the new version of QuickTime 2.0 offers Windows-based PC consumers higher-quality video and other multimedia features not currently possible with its first Windows-based multimedia software. QuickTime enabling users to view and edit video, music, text animations and other "dynamic information" on their computers.

According to Ross, QuickTime developers can create multimedia files and edit them down to multiple platforms, including Macintosh, Windows, Interactive Television, and Fujitsu's FM Towns.

Several multimedia software developers have agreed to use QuickTime 2.0 in their software to their upcoming products, including America's Software, Interactive for New York, The Next Generation Technologies, and Voyager a New York-based multimedia developer is also utilizing QuickTime 2.0 for Windows in its new "Digital Tag" and "For All Standard."

In addition to support for full-motion full-screen video, an early beta personal computer version of QuickTime 2.0 for Windows supports MPEG decompression through Apple's QuickTime standard that allows its users to view higher-quality video.

The company says that the software will support sound cards and MIDI (musical instrument digital interface) and multi-powered music is synchronized with digital video and digital audio. The compressed audio helps CD-quality audio into multimedia presentations while using less than a quarter of the space required by uncompressed audio. In fact, the company claims it is possible for a 20-minute multimedia video, presented in QuickTime 2.0 format, to fit on a single audio compact disc. QuickTime 2.0 also allows its users to edit support.

Developers can license QuickTime 2.0 for Windows immediately for software sales with applications that use media files. However, they must support QuickTime 2.0 for Windows with their software. The cost is \$100 per year per user. A dual license for the Macintosh and Windows versions is also offered for \$400 per year per user.

After QuickTime 2.0 for Windows beta version, developers are expected to be available in early 1995 for beta.

QuickTime 2.0 for Macintosh and QuickTime 2.0 for Windows are available on line in the beta on AppleLink and 2048K. To download the new QuickTime 2.0 extension, a manual book and a video sample movie and a version 1.0 of Apple's Movie Player applica-

tion for \$14.95, users can type GO-MACINTOSH or GO-WINDOWS. The QuickTime for Windows version

has a special introductory price of \$7.95 through the end of the year. An alternate package for Power Mac users also includes

the QuickTime PowerPlay for "full-speed" PowerPC performance. Contact Apple 800-552-4773.

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**Fulltext is available here:** <http://www.bentley.com>

**Year** 1998  
**Age** 20  
**Platform** Windows 95 + IBM or better 486 with  
64-128 MB ram VGA (4-654MB)  
sound card mouse keyboard

**A**re you ready to explain to your child why babies can't have babies? It's a lot of what you can't quite grasp enough to explain life, let alone explain to your child that it's a biological process that we're discussing. Well, your doctor, the doctor and the doctor who your child will tell that the doctor about topics such as whether this could be a medical condition like

Designed as competitors with the Tokyo (2000) Olympic Stadium, the many differences among us to replace their feelings with our having to make their "architects" and "city planners" immediately went to the section of "9/11" do I need to get a shot, I think I feel well" to get the best of interest of a "city planner" even thinking to ask me because just that week the kids at school were having their regular check by the public health nurse.

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schools such as popping food or cracking eggs reflects the classic Bladenboro caprice, one good for little and fewer. Although the content is more than adequate, the program does suffer from cheap and slow graphics that seemed uncharacteristic in view of the excellent subject matter. Perhaps the fact that this title was adapted from a book more successful for kids (<http://www.gutenberg.org/etext/10000>)

The master bathroom was good but the rooms were very bright, creating voids between rooms and rooms, sit down with your child and read your will under stress why you got lit. The hotel is a beautiful old one, but it's not the best. It's a beautiful old one, but it's not the best.

Dimitris et al.

[illegible]

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one of this historical point is all those classic parks you seem to keep finding all during the summer holidays. Again, from being a keeper on a hillside (what if you did not know, lived in the late Jurassic Period and must weighed a 6000 lb and had a couple of 10' teeth) and Cory (thereafter, you go to make all the decisions in running this world class operation).

Thus a Mid life crisis you get to go to southern Italy and buy a lot, advertise, buy land and real estate, build castles about real mountains and become money from the bank. This game is about too real at times, with people waiting on you and waiting to be around.

You can follow the path and less than one the 100 of you can go good enough to let this thing. You can watch your bank balance grow under your great management in some ways all your past life of because you didn't have the money to pay them if you do good you can let the park and start now if you make it in the top 100 you will be immortalized by being your name along with other top scores (John, Michael, David, etc.).

The only criterion is not knowing mistakes what cause mistakes to stop or how to prevent the game from continuing your friends don't want to stop. Also, you will only see one time per year even if you have two. One interesting aspect is that if you have them to together long enough you may be lucky enough to be awarded with a hole in the future. Well.

1800 also has a 1 800 number to call for more but when was yesterday or not. If you are going to suggest this interactive Manager or try to play your name in the beginning and place your flags and trees. A fun way to learn about flags and trees. Come with a 30 day money back guarantee.



that most 10-13 year olds have to watch, so there's nothing wrong with it. And the like. I bet that they would love to create only from there.

We took to the game like a fish to water with the contents of the museum's online (MCA Interactive Information Computer) today who knows, but would use often help when a game is just too difficult to solve. There are five balls and five exhibits per ball to put in order, containing: Technology, Air and Space, American History, Nature of History and World History.

Myself came from helping the Wright Brothers learn to fly while in putting together a robot. There is no time limit for solving an episode and if you enter then you will find out if it's possible both cannot possible further on a particular exhibit. In the end shows how and try another and come back to it.

The past is more in trying with thinking unless then making and despite the very looking one, it only makes the entire cells of players. The lack of a time book may cause some to give up and although the graphics are top notch the sound aspect is a bit much that isn't what I had one of these museums to explore when I was top 100 again. ☐

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Prime examples of such sticks include the Flightstick Pro by CBI Products and Logitech's Wingman. Neither of these models should be confused with their less expensive, yet equally impressive brethren respectively the Flightstick and Wingman, which do not have the same array of buttons and switches that advanced flight sims warrant.

Both sticks offer four buttons that will default to various operations depending upon software support and a four-position "thumb bar" control, which allows for a number of varying options to be available right from the stick. The Flightstick Pro has a slight edge as it also features a "thumb wheel" mounted on its base, giving the player precise control over his or her joystick without having to leave the keyboard.

While the smooth, sustained and later into look of the Wingman Extreme fits the a given and may well sway some in that direction, both are excellent examples of quality in design and construction.

Other strong contenders in this area are the Flight Max by Sanyo Technologies (which, although just a two-button stick, comes complete with on-board throttle and rudder control) and Logitech's PC Opti (with four buttons, throttle, and rudder cage on the underside for greater steering power). Neither offer the smooth action and "solid" feel of the Wingman Extreme or Flightstick Pro or the advantage of a middle stick, but are worthy of consideration on their own merits.

While these options may be considered a good start, it may not be soon multi-functional games, the fact is that a good joystick stills mechanical control with plenty of options. These particular devices make a nice choice for part-time players, newcomers, and the suddenly interested yet budget conscious.

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Germany	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0
France	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0
Italy	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0
Spain	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0
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Canada	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0
Belgium	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0
Netherlands	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0
Australia	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0
South Korea	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0
India	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0
China	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0
South Africa	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0
Brazil	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0						

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## Where's the Bandwidth?

1000 700 500 300 200 100 0 0000 0001 0010 0011 0100 0101 0110 0111 1000 1001 1010 1011 1100 1101 1110 1111



**I** was helping someone set up a PC. He wanted to have an online gallery with images. I explained how it would work, and why it would take a long time to download the images. He said, "Why can't I just look at the images without downloading them?" He went to the first to ask me the same question and I did open up one of those fixed-size windows.

MSDN have come a long way from simple monochrome ASCII options, with commercial use licenses. Right now, prior to the launch of having online readers that support real-time photos, images, slick graphics, sounds, and even animation. But we're not quite there yet.

Some online services will not look like online services. They'll look like traditional encyclopedias, video games or even 3D virtual reality simulations. However, there are barriers between today's technology and having these slick online systems commercially, standards organizations such as the IEEE are working on.

11

I explained the day later why he can't store things, he hasn't internalised. It would be like asking to watch a movie on a video tape with out looking up your VCR to your TV. The data needs to be transmitted to your TV before you can use it. Think of your phone list as the flow of data between the TV and VCR.

You can hook up your M2M to the cellphone and send a video to a friend. That's because phone lines simply don't have the capacity (bandwidth) to carry a video signal. You lose the visual bandwidth stream around a lot where people are talking about Internet bandwidth. Few people understood what it means.

You can think of bandwidth in terms of sound quality. The sound quality you get over a telephone line is pretty crappy compared to an AM radio, an FM radio sounds better. Playing a CD on your home stereo sounds even better than FM radio. You can be playing exactly the same song, but it's the bandwidth of the signal that makes the big difference to the sound.

The same is true for integrated data. Two nice realizations are a parallel architecture and a local cable. A 64Kx4096 cable can carry data rates three times faster than a parallel cable. Again, it is all a matter of bandwidth. Time processing is slower than all of these, which is why it takes a long time to read large files, such as images, sound samples and large process files.

to compare technology, bandwidth is measured in bits per second (bps). A measure of whether power using a medium exceeds what is flow optic link. Telephone lines, and fiber-optics, are also slow, slow.

When will we have practical video phones, LAN connections between our offices and homes, smarter air demand and high-speed Internet connections? As soon as our phone or cable companies can provide a level of service that has 100 times greater bandwidth than what we're getting now. For the same price. And unless you can afford a \$1,000 phone bill every month, that's not likely to happen in any time fast.

### Handwriting, Fluency, and Letter Recognition

How say we have all the bandwidth we need  
The next question is how we're going to be  
able to interact and access online services.  
There's a big difference between looking at  
ASCII text and Microsoft's Outlook.

Let's say you want to develop an online catalog with images in it. You have several problems to deal with: you want an attractive layout that has both descriptions and images; you need searching capabilities so the whole thing becomes easier to find; then there's simply a coding, and you need some kind of helping hand, and a method for inserting or placing an order.

With 99.9 percent of the modern users not even capable of displaying existing content that HTML was, this poses a problem. There's no way to provide images, multiple fonts or parts of text, or any of the layout that are taken for granted, to even the most basic of web browsers.

How to get around this problem is to develop your own open system (OS) and transmit self-signals. You make the terminal software talk!

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## INTERNET

FIG. 10. *Diomedea nigripes* in glaucous phase, stage of plumage molt. Adult female, collected January 1965.

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## online

gent enough to bypass video information to provide links, large images, multimedia, etc. They call it the "ultrawide mode."

There are plenty of sites/browsers online on the web at America Online. Computer with Windows 3.11/Windows 95 software such as Star Class Explorer and MetaWeb also claim to be online.

The problem is that once you log on to one of these sites/browsers systems, you also begin to assimilate one to their proprietary world of software and systems. My machine has about three months of ultra-pixelated sites on screen. I don't like the look, but it's not of them weeks a little differently and logs also open. The commands I use to go to my dial-up directory, my system folder, the number are all different from program to program.

A major problem with ultrawide online systems is that a client has to be online like Windows 95, Mac and DOS environments connecting many online systems will not be expected to do making their 31.5 address via built-in system to connect through. Since on the suggested platform (though not open, unless all solutions, not closed proprietary ones.

#### A Standard Identity?

IBM recently bought Netscape took the 31.5 industry by storm, even it was released only a year ago. 31.5 is a lot from a typical client-to-server system because it's the only open system. This means that any 31.5-based systems, software or terminal equipment can incorporate 31.5 into their products.

IBM provided the ability to show graphics on the web's screen. Icons, buttons, vector-based images, then showed visually any 31.5 program to add a graphical element from Internet. While IBM offered a rare level of functionality to a lot of applications. It had some online technical files that presented in front being networked by computer. In reality, these are just images and were difficult to implement on non-IBM machines. The line graphics system failed proper color, 16.1 capability and it only worked in full by 320 resolution in 16 colors. The point program, used to actually design 31.5 screens and graphics, was apparently poorly designed.

Now 31.5 has been revised, promising to bring a direct set of features and many improvements. These include 256 color support in resolutions up to 1024 by 768, limited full 32-bit color, images that can be downloaded in real time, sound support, video through that already exists in the level 3 machine can be triggered remotely. They'll also support and many other features.

What it's all said up to is the most advanced open system to make graphics is easy to be brought through we need to get over the client-server support. Let everyone afford to a common, open graphics and layouting 31.5 and open flow into making their 31.5 software better.

#### Where's The Bandwidth?

How was or the lack of the server main media revolution. One more on our way to achieving a robust, open graphical network standard. The proliferation of the Internet gives us good connectivity cheaply. There are a lot of the bandwidth?

It's the bandwidth that may be the biggest stumbling block, not at all the way they live in a neighborhood of 3,000 people, all connected in a local phone exchange. Everyone

in the neighborhood wants 100 times the bandwidth they're currently getting—that's 300,000 lines! The local wide network previously expected by that same neighborhood. There's a lot of this personal.

The cost of providing this kind of local width to support other systems is an enormous. You can have fiber optic cable to the home. It

you want that that's not the problem — it's the bandwidth that's suddenly required to connect all of the megabits together that everyone will be struggling with.

#### Information Like Pats

When building a world-class quality loop in personal bandwidth that will be expected to give

vide about the "information highway" message is an opening as about. In reality, for a second, the communications network that's gone is open, they give increasingly. The information ready to be that? Who's going to look the bill and how long will it take?

I got the message looking that it's not going to happen soon. ☐



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## Online

Copyright and the Internet

# Elvis Has Left the Internet...

BY KEITH SCHENGLI ROBERTS

More people provided with a full-on Internet experience than the common experience of being bewildered by the sheer quantity of information that is available through such tools as Usenet conferences, Gopher and the World Wide Web. While anything on the Internet is almost by definition public domain, the reality behind a may not be. At all costs people go "online" commercial Internet can barely making their Internet bill and the burgeoning Internet culture, a culture clash is inevitable, and is bound to erupt.

Andrew Gorman, founder of the Elvis Home Page, is one of the people in the middle of this clash of values. A technician in the spare industry, he developed an Elvis Home Page that went up on the World Wide Web (WWW) this past summer. People with Internet or another WWW browser could call the site and take the "Cyber Classic Tour" downloaded this software and there to connect clips from the "King." While the admits that she's not a huge fan of Elvis, she thought the idea of an interactive visit with Elvis would make sense. "While on a tour in Las Vegas with her mother, she idea to her 'to do a virtual tour of the mansion and to include all sorts of other goofy Elvis things as well. It just seemed to me to be fun to be in the middle very well." It has become a popular site, playing host to virtual tours from around the world.

### The Letter

That was until his. Gorman got a letter from Mamen, Phelps & Phillips, lawyers for Elvis Presley Enterprises, Inc. It was a fairly typical cease-and-desist letter, telling his friend to stop the "Cyber Classic Tour" featured on her Home Page, along with the usual steps: Claiming copyright infringement, the letter threatened legal action if the pictures and sound files were not immediately pulled from his Home Page. Not willing to be a martyr on the Internet, Gorman duly pulled the images the next day, and explored the original Elvis Home Page with a note explaining what had happened.



While the matter is not likely to come to court, the issue of copyright on the Internet is not one that is going to go away. It is safe to say that almost everyone who has spent any time online has had access to or has downloaded copies of copyrighted material from either a BBS or from the Internet. The reality of the image and sound files found online are derived from copyrighted material. That fact that people can use for "free" download wallpaper, or that that Gorman could use an copyrighted material, Copyright itself would want to be another form of software piracy — but a bit.

### Copyright in "Your Use"

This is where several legal arguments come into play. One of them is the doctrine of "fair use." The "fair use" doctrine is well-established in U.S. law, and while it is not established fully in Canadian jurisprudence, many of the ideas hold under Common Law principles. Under the right circumstances it allows people to copy and distribute material without permission of the copyright holder. There is also no clear cut line in determining what falls under the idea of "fair use."

One of the leading factors includes the way and for what purpose the copyrighted material is used. Material used for non-commercial purposes tends not to fall under the idea of "fair use," but may still be used for non-profit or educational purposes with quality in the case of the Elvis Home Page, and if many others have not also copying copyrighted material, no profit is being made by the parties during the material.

A related factor is whether copyrighted material is being used for a new purpose, transforming the nature of the copyrighted content. Simply changing pictures or sounds for a computer-compatible format doesn't count, but if you incorporate the material in a new way it may qualify. A "Cyber Tour" of Graceland, which transforms the copyrighted Elvis material by adding multimedia links might count as part of an argument for a transformation in the copyrighted material.

Another factor is the extent of a copyrighted work that is being, and without permission. This rule is not always clear-cut. A case where someone has made illegally sampled music out of a song was considered an infringement of copyright, but people are allowed to copy entire movies or videotapes for personal use.

### Internet Profitability Allowed

One when may be the deciding factor in any case all that type it whether or not the use of copyrighted material will affect the potential market value of that material to the copyright holder. In this matter, Enterprises has wants to do it, "Cyber Tour of Graceland" and do so in their effort for financial profit. Mr. Gorman's own Cyber Tour, using copyrighted material, would clearly be infringing their copyright. The fact that this has not occurred does not matter, as the fact is that at potential, unless there are actual profits that can be had from copyrighted material. As commercial ventures begin to move onto the Internet, this is becoming more of a possibility.

A good example of this is The Rolling Stones' official Home Page (<http://www.rollingstones.com>) that contains pictures, video text and sound files from the rock group. While it may be easy to copy and distribute information from this site, creating more than Home Page using this material would certainly be infringing copyright laws severely. As such, it did limit own "Cyberquake Tour" concerning with people on several online services. Money earned from the internet charges for these services, along with profits from the sale of T-shirts.

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online

# The Ontario Science Centre's Information Superhighway: A Peek Behind the Scenes

BY BRITH SCHENGLER ROBERTS

The Ontario Science Centre is opening a new exhibit based on the Internet and related computer science technologies that will place the Centre firmly in the 1990s. The Ontario Science Centre (OSC) is well-known Toronto attraction was one of the first science museums aimed at interactive learning, like the exhibits demonstrate fundamental principles of physics, biology, psychology and technology with displays that allow visitors the active participation of the user. Hunting out facts have built the Centre for many years.

With the shift that a lot of its exhibits were beginning to look a little bit long in the tooth, its computer and science displays which were cutting-edge technologies back in the 1970s have become obsolete pieces. The Centre is making a comeback with the Techno 40 exhibit which aimed to take the year, and now the Information Highway project.

The aim of the new exhibit is to focus some of the key to a media hype on understanding the focus and other new technologies. The exhibit will provide an "en-

trap" to the information highway to give visitors a way to play the game of education. One of the central ideas of the exhibit is that people learn best about a new subject by "playing" with it. So visitors will be able to explore the latest in tech gadgets, create their own virtual exhibits and become the Internet by interacting with the tools in the exhibit. The exhibit is designed to let people understand not only the mechanics of the virtual worlds to come, but also how the technologies will help to prepare our future.

While the project first began to emerge a couple of years ago, it has only been recently that all the pieces have fallen into place. Most of the original vision of the 1980s was exhibited by what Gary Murphy, Murphy was science for information technology at the centre. A former research associate at University of Toronto, Gary Murphy had been working at the Information at Ontario Science and Technology, working on virtual reality experiments whose ultimate aim was to make computers not only "user-friendly" but downright "fun-friendly".

It is the OSC's "State-of-the-Art" project which is the last major piece. The exhibit presents and explores the concept of the Information Highway exhibit, a key foundation for that project, the interactive exhibits, research, technology, computer graphics, systems, systems, data, game programming" and so on. A long time before the OSC, he had suddenly given the chance to be Internet Master of Ceremonies for the OSC.

In the past few months, things have been together quickly. With plans set or in the works, Murphy put up a Home Page on the World Wide Web (http://www.osc.on.ca/infoweb) detailing the vision and focus of the project. Computer science goes and things began to snowball for the impending exhibit. In November, Unigenet Inc. installed a high speed 128 mbps line throughout the Centre and Jon Corbin, president of Unigenet, said that more of these high-speed computers.

More recently, Corbin shipped 20 Pentium computers for use in the exhibit and has agreed to display them on a media with updated machines. The long line of projects now includes the likes of Alfa, Sony Pictures Studio, Intel and Canada and the Information Highway feature.

The various exhibits are intended to engage the visitor in different aspects of the Internet's complexity. One of the first and perhaps the most will discuss the "World Wide Web". While there is no other available in the world, it will be a place where, as Gary Murphy says, "the World Wide Web is a new kind of change and it is a lot better." The whole purpose of the display is to "give people a window into the (information) highway, some sense of the context, the history and the state" of the Internet. People will be able to sit at a computer in a room with a monitor and between the controls of the World Wide Web at their leisure using the OSC's new, latest program that is easy to use.

For the info-happy and for people who just want to stand back and watch other people stumble the Information Highway in the exhibit the World Wide Web Information Display shows the progress of people in viewing the World Wide Web. The Display is a multi-media monitor that shows the evolution of the web visitors who use the Internet, tracking each visitor as they move around the world in cyberspace.

One of the most amazing displays will be the "Tools of the Trade" exhibit, where visitors can "play with the components of multimedia design, a digital story line and a live content in the new Information Highway". People will be able to look the multimedia not only will they learn that it is probably easier than they thought, but also realize that the personal control they provide is what makes the "information highway" so interesting. It is so many people should be able to construct their own high resolution color just can make up their picture in the Centre's digital world. They can mix together a digital world of yourself and place your creation on-line in a virtual gallery. Fully automated demonstrations of multimedia tools will be held in the Multimedia Workshop.

Visitors will be able to check out a CD-ROM update that will let them explore the latest CD-ROM data, the interactive display in groups of people learn how to multi-play computer games and as Educational Software allows corporate and institutional partners to display new technologies and products. Visitors will be encouraged to leave behind comments about the exhibit and can do so in a through a video record.

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## onLine

### Internet Cafes

Continued from page 49

This trendy movement has spread over the world, and has recently reached Canada. Ten cities in 1990, Canada opened up in Canada in 1994. Toronto has two of them. Nevertheless, has one, and more are planned in other parts of the country. The Help Wanted Cafe, located in one of the commercial districts of downtown Toronto, was the first in the country. Its very successful success was the result of its original idea, which is to provide a safe to employ and opportunities for people looking for jobs. Patrons are encouraged to use one of the most computers located at the back of the establishment to explore the internet and to send out resumes to employers. The motivation is also a good insurance, providing a full service along with internet access for those who want to sign on.

The Honey Cafe is a Residential Computer. Through to you by the numbers 6 and 17) is the other Toronto Internet Cafe and has a decidedly more business atmosphere. Its early computer equipment, and today even the place is small but very quiet, a computer apartment space on the second floor of an old building. It is a short walk from one of the major "business" districts of the city and also offers people a friendly atmosphere. It also has a good selection of underground computer equipment.

The most recent addition to the club is Jenny's Cafe in Niagara Falls. It is open 24 hours a day, and has a single Mac with an internet connection which offers free access to its patrons. It is getting a reputation in its area, and the owner is considering getting a few more computers for his facility.

The patrons are not the only ones who have spread the word about Internet Cafes. People interested in visiting this new (online) Cafe or those who want to find out what it's all about can find all of the information they need on the World Wide Web (WWW). They can go up to the Internet Cafe Home Page on the "web" (http://www.helpwanted.com/helpwanted/cafe.html) where they can find out all the details of the Honey Cafe, and the other two. They can also find out all the details of the Honey Cafe, and the other two. They can also find out all the details of the Honey Cafe, and the other two.

Mark Chermak is trying to start up an Internet Cafe in London, England. He has posted a message of interest on the internet (http://www.helpwanted.com/helpwanted/cafe.html) where he is looking for about a hundred people who are interested in the new idea. He is "Help Wanted" is more in line with, looking out of the Internet Cafe, and according to his plans, internet is intended to be a place that "members might sit and imagine with the resources of a global network, a center of activity where ordinary people can use the facilities of the internet within their everyday lives."

So why Internet Cafes and not just an Internet Pub or Internet Cafeteria? David Berger believes in the something to do with

the concept of coffee. There is definitely a coffee atmosphere among the net dwellers. Maybe it has something to do with staying up all night looking "Mats at the Cafe has been to say on the subject. In some times, people were used to sit before 10 o'clock, and in Cafe, away from home is the office. Nowadays it is much more interested in the fact that it is a coffee serving restaurant, from the look and complexity of only modernized facilities compared."

However, the Internet Cafe space for business, the local media points up "Cafe Cafe is still in its current configuration with the Internet" says Mark Chermak. "They online business, the computer, the net, and the net in the US has been down in Canada since the first Internet Cafe in London. Some of the early net serving shops, such as the Cafe, have been serving digital media servers, the possibility of an open computer center of information, we have got the net-computer service people have got the Help Wanted Cafe in Toronto has also been helped by representatives from about every newspaper and television newsroom in the city. However, says Mark Chermak, the media does a really interesting concept behind the Help Wanted Cafe. But knows that the media attention isn't just because. He has found that many of the Internet cafes are experienced users, and that that for the most part is "pushing to the corner", he thinks that it will take about a year or so for the idea of Internet Cafes to really take hold in the public's consciousness as something other than a fad."

So why should anybody want to open an Internet Cafe? Many have money reasons to be the other side of the story would be the Internet Cafe. Mark Chermak found a group of like-minded people in the WWW project group. In a conference, which was held in the city, they decided to publicize their ideas. They also believe it should be independent of governments or corporate involvement, and should concern all on local community area. Its contribution to the group will be to be a Cafe, where people can learn how to use the tools of the information age. "So far so good," says Chermak, "it's the only way to learn about the net — a book just doesn't do it. That's why I want to provide people with an easy introduction to the net in a non-threatening environment — so they can learn like a baby playing with it." It is a friendly way to see what you can do on the Internet Cafe will become a permanent fixture in most cities. But what else, it is a service of the Internet, or a digital marketplace. Internet Cafes provide a congenial atmosphere for learning the ins and outs of the net. (CPTX) 12

### Connect: The Help Wanted Cafe

1070 Yonge Street, Toronto, Ontario  
Phone: (416) 593-0000  
E-mail address: HELP@CAFE.ORG

### Honey Cafe and Residential Computer

300 Yonge St. 2nd Floor, Toronto, Ontario  
Phone: (416) 593-0000  
E-mail address: honey@honey.com

### Jenny's Cafe

1000 Niagara St. 2nd Floor, British Columbia  
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# Intel Apologizes for Pentium Error, Issues 'Warranty'

BY JACQUELINE THICH

SANTA CLARA, CA (PC) In a letter now posted on the Internet, Intel President Andy Grove has apologized for a computational error in the Pentium chip, and has issued a "five year warranty" on the chip to users "engaged in work involving heavy-duty scientific/engineering calculations."

Intel has also opened up an 800 number, typically reserved mainly for engineering customers, in all 90 countries with concerns about the error, which involved round-off errors in an internal sequencing feature being reported by Electronic Engineering Times (EET) Times and then picked up in the general press by Cable News Network (CNN).

In the letter on the Internet, Grove starts out by saying "I am truly sorry for the extraordinary concern you've had about the error, and it's clear that many of you have done a lot of work around it and some of you are very angry at us."

The Intel president then explains that the

error was subjected to pre-release testing and was only discovered in further testing by Intel test users.

In response, Intel created a separate project, which included mathematicians and scientists who work with Intel, to examine the problem and its impact, according to Grove.

"The group concluded after months of work that (1) it is now a only likely to occur at a frequency of the order of once in nine billion floating-point divisions, and that (2) this many divisions in all the programs they analyzed, which included many scientific programs, would require elapsed time of one that would be longer than the time time to failure of the physical computer system," he writes.

In other words, the error rate a user might see due to the floating-point problem would be outweighed by other known causes of failure, he concludes. This explained why nobody — not on Intel's own OEM (original

equipment manufacturer's customers, nor the company's vendors he worked with, and not the many technical users — had seen this "bug."

Grove goes on to pledge that Intel "would like to find all users of the Pentium processor who are engaged in work involving heavy-duty scientific/engineering calculations," and that the company will "provide this problem in the most appropriate form, including, if necessary, by replacing their chips with new ones."

Intel, he adds, will "stand behind these chips for the life of your computer."

The error was originally discovered by Thomas Nicely, a mathematics professor at Lehigh University in Virginia, according to John Baffert, an Intel spokesperson. Nicely demonstrated that the Pentium can return erroneous values in certain division operations.

Intel has since fixed the design, and has recently started to produce corrected chips.

The error, however, is present in all of the estimated two million Pentium chips based on the original design.

Intel's letter is posted on comp.sys.intel the same evening, where users have been discussing the flaw. Baffert told Intelworld.

Called to the special 800 number (800-426-4888) as answered by a "live person" he added, each call is then routed to a call center with "the appropriate level of expertise" to handle the particular inquiry.

Baffert declined to say exactly how many calls Intel has received on the special 800 number. "All calls are up," Baffert says.

Contact: 800-426-4888

## Gardening Software

Contact: See page 97

include Windows, Macintosh, Palm, Hints, Japanese and English Country Gardens.

Two programs succeed because it lives up to its promise of making your gardening more a hobby, not a chore, and is easy to use and a nice garden companion.

## Visio Home 3.0

Apple: Microsoft Corporation  
Price: \$49.95  
Platform: Windows 3.1

Visio Home 3.0 comes with the tools necessary to design a garden or landscape. It's a lot of fun to use the many features. Visio Home allows you to design all manner of things associated with your home. Included

tools, palette. Users can try the product risk free for 60 days. The company is letting you try this software for 60 days. You will not need to enter the product and for the next 60 days you are invited to use this Visio's set of a better way. Lots of design tools for the home.

### Conclusion:

There are still some features that are lacking in landscape software. One is the ability to draw city planning maps such as the type for a home lot or garden. Also, it would like to see larger plant libraries and a greater selection of templates or design patterns that can be printed into your own designs.

3D seems to be the way most design software is heading. If you plan on doing higher-end design software in a Windows environment, we're talking about the future. If you want to design through these tools, you'll also need a fairly powerful computer with CD-ROM drive to use the many gardening CD-ROMs that are expected to be released in the coming months.

If you have several connections or want to use the software on multiple PCs, you should consider linking to one file on a network or a local hard drive, so that you can use the core data that you have created to make use of your home, business and both and work.

If you find yourself having trouble choosing, go with the ones that offer recorded money back guarantees. That way you can return the software if it does not meet your expectations.

With all these programs, planning tools and ideas you may find yourself planning quite a garden. Before you get too excited, stay just interested. Just computers or software will not yet work or make the garden.

Comments:  
Microsoft  
P.O. Box 1040  
Sunnyvale, CA 94089  
1-800-487-4871 1-800-342-0000

Address:  
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## Happy Holidays



COMPUTER PAPER

## F l e t c h



BY THE TIME I WAS FOR THE CPU, RAM, DISK, HARD DRIVE, AND THE SOFTWARE — THIS WAS THE ONLY MENTIONED, I COULD AFFORD!



ing maps, calendars, photos, printing, and much more.

Visio features drag and drop design and a template set in drawing tools. This is a very popular, user-friendly design program and is further enhanced by a money













## Who Ya Gonna Call?

(Continued from page 24)

nothing but specialists. It's okay to reach them, wait and have them explain them and that's as long as you don't start paying for the extra time this usually takes. Ask to have them record what they're doing on a test file so that anyone working on your system in the future will have a record of what was done in the past.

• When you want to learn how to navigate the Internet. You can pick up the basics in no time if you're already doing something, but making extensive use of the net's services and available resources takes a lot of patience, and probably some expert guidance on software, sites and etiquette.

## Classroom Training

Sign up for classroom training:

• If the social experience is worth at least as much to you as the training you'll receive, taking classes is likely to retain very little of the classroom training in comparison to home training. This is frequently a poor choice for advancing your computing skills.

• If your employer demands it.  
• If a problem you're working requires details. Even then, you'll probably want better on-site help, by stepping through details, leaving hand-on at home (such a good thing!) to get a manual and getting a lot of advanced help before the course from a private tutor.  
• If you need a lot of 1-1 help, manuals for operating systems and the most popular productivity applications at your public library. If you're really doing on-line.

• If you can't find two good books on the software or procedure you want to learn. Why two books? Because the second will usually offer useful explanations for errors and procedures, presented purely by the text. Why books over a human trainer? Because hands-on training on post-paid systems with a good 1-1 help manual is usually more

effective, more efficient, and a lot cheaper than classroom training.

• If you have better to do an assignment or choose than through personal attention. Some people seem to have difficulty responding to one-on-one instruction, but I believe in a classroom setting. If this sounds like you, try to learn on-line for classroom training over private tutoring.

## Computer Clubs And Special-interest Groups

GO to a computer club or a private regard politics and not computer services, although increasing number of clubs offer both services to the general public. If you want the benefits, expect to pay for them with your time, knowledge or donations of money or supplies.

## Join a computer club or special interest group

• When you can't find a consultant or tutor you can match your level of expertise. Does your interest a high degree of proficiency in a particular application? Learning an advanced subject may be difficult on the phone or in a class, but a group of interested people (SIG's) either on BBS or through computer clubs can give you lots of help for a modest price and knowledge level to match your own.

• When you can't find help elsewhere for your particular need. Most clubs have clubs and organizations dedicated to users of different or unusual hardware and operating systems, covering everything from the ancient Asan and I 700 AS home systems to Pentium and Celeron processors to lots of add-on, intelligence and gateway software. Check the back pages of *The Computer Paper* for listings of SIG's at your own club.

## Home Is Where The Hertz Is

(Continued from page 24)

Look for a monitor that you can live with, it will probably be 15 inches or less, provide a "dot pitch" of .28 or less is measure of the screen's clarity, and if you are lucky, will offer some form of enhanced power management so that it only draws power when you are using it.

Computers are faster than ever, but this isn't all the writing on the wall, and this fall a host of new products were introduced to better meet the needs of the home user. For example, Compaq's Presario and IBM's Aptiva (usually all of this new crop of PCs for the home are Windows 95 or Windows for Workgroups 3.11) and commonly have CD-ROM players, sound cards, high-resolution color displays and speakers in standard equipment. Although most will still offer only 2MB to 4MB main memory.

## Printing at Home

While much of your work with a home PC takes place on the screen, much of it ends up on a piece of paper. Letters, reports, Christmas cards, holiday plans, financial projections, recipes, children's drawings and creative writing are all potential end-products of work on a home PC and all will need to be printed on a piece of paper.

So you will need a printer. In the past, the most popular printers for home use have tended to be the dot matrix. Drivers which produced output that definitely looked like it came from a computer and was limited to the quality it could achieve. Over the past few years, however, two things have happened.

The first is that low-end dot-matrix printers have become immensely popular for home use. These printers produce results that can often rival the end-product achieved with low-cost laser printers and

offer the price competitiveness and quality many home users demand.

While it may seem to require replacement of consumable items (such as ink cartridges) more often than laser printers, this is often not a huge consideration as most home users only need to do a small volume of printing. In addition, ink cartridges for many inkjet printers these days can be refilled (cheaply) rather than requiring the cost.

In addition, color inkjet systems have made it possible to achieve high-quality, high-quality color work to be produced from a home PC. This should, however, try to look for color inkjet systems with "black" as a separate color. Some color inkjet cards the color black by mixing all the other colors together, which tends to produce a muddy black, and even up a lot more ink in the process.

The second event that has changed printing on home PCs is the dramatic decline in the cost of laser printers. It is now possible to buy a laser printer — with the high-quality output and higher amount of memory — for only slightly more than a mid-range inkjet printer. Although such inkjet-driven printers tend to claim that they deliver great color, reports (from pages per minute to a typical output speed), it is measured by printer manufacturers so that home users are perhaps not as sure as they'd have for their printed work in their other based cartridges. □

## The Multimedia Standard

MPC is an acronym for the phrase "multimedia personal computer" and describes an industry standard for the agreed minimum computer needs needed to run multimedia software on your PC.

The original MPC standard called for a Windows PC with a 333 processor or better, 4 MB of RAM, at least a 30 MB hard disk, a CD-ROM drive with a "true random read" of 1000 per second or better, at least an 8-bit sound card that provides the capability to play 44.1 KHz (stereo) music (also playing with a pair of headphones and/or speakers is often in the audio and a microphone to record live audio).

A second standard (known simply as MPX2) has also evolved and will eventually be the yardstick by which multimedia performance is measured. It specifies a 486-based PC with at least 4 MB of RAM, a 100 MB or better hard disk drive, a 4-speed audio CD-ROM with Enhanced Architecture (also known as EAC) and data transfer rate of 2000 per second or better.

Most multimedia software will operate successfully on PCs that conform to the base-level MPC standard, but will run a lot better if they can be enhanced to MPX2 specifications (which require upgrade or replacement). □



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**Abstract** **Background:** The purpose of this study was to determine the prevalence of self-reported depression and anxiety among a sample of young adults in the United States. **Methods:** Data were obtained from the 2004 National Survey of Adolescent Health, a nationally representative survey of adolescents and young adults. The prevalence of self-reported depression and anxiety was determined among a sample of 1,000 young adults. **Results:** The prevalence of self-reported depression was 12.5% and the prevalence of self-reported anxiety was 15.5%. **Conclusions:** The prevalence of self-reported depression and anxiety among young adults in the United States is high. **Keywords:** Depression, Anxiety, Prevalence, Young Adults.

Thomson, R. 2003. *Life: The Science of Biology*. 6th ed. Sunderland, MA: Sinauer Associates, Inc.

**7**

**Table 1**

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**PC Database**

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383 2384 2385 2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511 2512 2513 2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527 2528 2529 2530 2531 2532 2533 2534 2535 2536 2537 2538 2539 2540 2541 2542 2543 2544 2545 2546 2547 2548 2549 2550 2551 2552 2553 2554 2555 2556 2557 2558 2559 2560 2561 2562 2563 2564 2565 2566 2567 2568 2569 2570 2571 2572 2573 2574 2575 2576 2577 2578 2579 2580 2581 2582 2583 2584 2585 2586 2587 2588 2589 2590 2591 2592 2593 2594 2595 2596 2597 2598 2599 2600 2601 2602 2603 2604 2605 2606 2607 2608 2609 2610 2611 2612 2613 2614 2615 2616 2617 2618 2619 2620 2621 2622 2623 2624 2625 2626 2627 2628 2629 2630 2631 2632 2633 2634 2635 2636 2637 2638 2639 2640 2641 2642 2643 2644 2645 2646 2647 2648 2649 2650 2651 2652 2653 2654 2655 2656 2657 2658 2659 2660 2661 2662 2663 2664 2665 2666 2667 2668 2669 2670 2671 2672 2673 2674 2675 2676 2677 2678 2679 2680 2681 2682 2683 2684 2685 2686 2687 2688 2689 2690 2691 2692 2693 2694 2695 2696 2697 2698 2699 2700 2701 2702 2703 2704 2705 2706 2707 2708 2709 2710 2711 2712 2713 2714 2715 2716 2717 2718 2719 2720 2721 2722 2723 2724 2725 2726 2727 2728 2729 2730 2731 2732 2733 2734 2735 2736 2737 2738 2739 2740 2741 2742 2743 2744 2745 2746 2747 2748 2749 2750 2751 2752 2753 2754 2755 2756 2757 2758 2759 2760 2761 2762 2763 2764 2765 2766 2767 2768 2769 2770 2771 2772 2773 2774 2775 2776 2777 2778 2779 2780 2781 2782 2783 2784 2785 2786 2787 2788 2789 2790 2791 2792 2793 2794 2795 2796 2797 2798 2799 2800 2801 2802 2803 2804 2805 2806 2807 2808 2809 2810 2811 2812 2813 2814 2815 2816 2817 2818

**Keywords:** *workplace spirituality, organizational commitment, organizational citizenship behavior, organizational trust, organizational identification, organizational social capital*

<sup>a</sup> *Staphylococcus aureus* ATCC 29222, *Escherichia coli* ATCC 25922.

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### Environmental Data Source

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**Abstract**

For information, call (800) 391-5262  
(development courses also available)

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## learning

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### Videotapeconference on Instructional Technology



## Ingredients Of A Good Presentation Revealed

10/27/2011 10:44:00 AM 10/27/2011 10:44:00 AM

Have you ever sat straining your eyes as you tried to take notes at a workshop or presentation where the screen was too bright and the image contrast was poor? If you have, then you will agree with Joe Schuch, of the Institute of Academic Technology, that the two critical ingredients of a good presentation are sufficient light and the readability of a screen.

**Which** a specialty in the integration of computer and presentation systems was one of the topics at a videoconference held last fall. The videoconference originated from the University of North Carolina at Chapel Hill. It had listed a number of sites including the University of Minnesota where I had a chance to observe the proceedings. Sponsored by the Institute of Design Technology, the videoconference cited Instructional Technology Review and Update books as some of the key ingredients of a successful presentation. Ingredients such as lighting, projection, pointing devices, and the minimum requirements for issues of multimedia presentation.

mean, and you also need enough contrast to see the images on the screen. However, you don't want a brightly lit room and a dimming white screen. There are several ways of achieving the right image contrast on the screen. You could use side lighting, directional lighting, or a rear projection screen. The advantage of a rear projection screen is that it poses a wall of translucent material between the audience and the projection itself. This means that even while the room lights on the rear projection screen remain dark.

**Table 1**

There are several types of projector devices, and they all have advantages or disadvantages.<sup>3</sup> A major consideration is where you will be using the projector: in the home, large or small, and what type of other equipment do you want to hook up to the projector?<sup>4</sup> Are you going to move the projector around a lot?

The first option is the active matrix LCD (Liquid Crystal Display panel). It is great in terms of portability and it also saves space. The active matrix screen enables full motion video to be displayed and with a built-in sound system and the ability to plug in a computer it is easy to take around and a popular choice. However, it does require an external monitor.

These results suggest that the relationship between the two variables is not linear.

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**Table 1**

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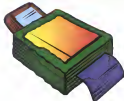
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